



THE PROJECT: AI POWERED VERTICAL GARDEN GROW & SIP

Avery Coonley's green team brought together technology and gardening to address sustainable food sourcing at their school by implementing indoor vertical hydroponic gardens powered by AI technology. Utilizing the Gardyn Home Kit 3.0, they were able to grow fresh produce while using less water than traditional farming methods, minimizing the need for harmful pesticides and fertilizers, and decreasing transportation emissions associated with importing food. The team shared their harvest and the benefits of sustainable agriculture practices with their community through educational workshops, offering smoothies made with their fresh produce to the entire school. Their goal is to establish a more eco-friendly and efficient way of producing food within their school community.

Project Type: Hydroponic gardens

Students Involved: 5

Staff Involved: 3

Location: Downers Grove

Grade Levels Involved: 6th

Number of Students Impacted: 337



It's all about learning, growing healthy food for students, and having fun while we do it. Students get excited about AI technology, gardening, and providing nutritious drinks. Educating students to eat healthy food can help them think better, have more energy, stay strong, and feel happier.

- Kenny Bae



PROCESS

Prior to implementing the project, students conducted background research on hydroponic farming techniques, environmental impacts of traditional agriculture, and the potential benefits of AI integration. Utilizing the Illinois Green Schools Project mini grant, students purchased their vertical garden kit, which is equipped with sensors that monitor conditions such as temperature, humidity, and nutrient levels. Students contributed to the design and setup of the gardens, assisting with the installation of equipment, nutrient solutions, and planting and watering of crops. They also took responsibility for monitoring and maintaining the gardens, regularly checking sensor readings. Once they had successfully grown their produce, students blended smoothies for the entire school using the harvested plants from the garden.

OUTCOMES & IMPACTS

The green team successfully implemented AI-powered vertical hydroponic gardens, resulting in a harvest of a variety of fresh, nutrient-rich crops, produced with notably reduced water needs and reduced carbon emissions. Participating students benefited from the project by developing teamwork, problem-solving, and environmental awareness skills, leading to positive changes in dietary habits and lifestyle choices. Through data collection, they also observed increased student engagement and awareness regarding sustainable agriculture practices, with student feedback indicating a growing interest in adopting more sustainable dietary habits. Moving forward, the green team aims to create a sustainable food model that not only benefits their school but also inspires others to adopt similar practices in their communities.

